National Energy Board | Office national de l'énergie

Reasons for Decision

Yukon Pipelines Limited

MHW-R-1-2008

March 2009

Abandonment Order MO-7-96 Review

Canada

National Energy Board

Reasons for Decision

In the Matter of

Yukon Pipelines Limited

Motion of the Board on 29 February 2008

MHW-R-1-2008

March 2009

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Cat No. NE22-1/2009-2E
ISBN 978-1-100-11698-3

This report is published separately in both official languages. This publication is available upon request in multiple formats.

Copies are available on request from:
The Publications Office
National Energy Board
444 Seventh Avenue S.W.
Calgary, Alberta, T2P 0X8
E-Mail: publications@neb-one.gc.ca
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Phone: 403-299-3562
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For pick-up at the NEB office:
Library
Ground Floor

Printed in Canada

N° de cat. NE22-1/2009-2F
ISBN 978-1-100-90695-9

Ce rapport est publié séparément dans les deux langues officielles. On peut obtenir cette publication sur supports multiples, sur demande.

Demandes d'exemplaires :
Bureau des publications
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Des exemplaires sont également disponibles à la bibliothèque de l'Office
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Imprimé au Canada

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Acronyms and Abbreviations

Abandonment Order	Order MO-7-96
Board or NEB	National Energy Board
CEAA	*Canadian Environmental Assessment Act*
Carcross Station	Carcross Pump Station located at Block 50, Plan 67253 CLSR, 59911 LTO
CCME	Canadian Council of Ministers of the Environment
CSR	Yukon *Contaminated Sites Regulation*
ESA	Environmental Site Assessment
GY	Government of Yukon
km	kilometre(s)
m	metre(s)
m^3	cubic metres
mm	millimeter(s)
NEB Act	*National Energy Board Act*
OCP	City of Whitehorse Official Community Plan
OPR-99	*Onshore Pipeline Regulations, 1999*
Pipeline Right of Way	Right of way for the Yukon Pipeline route from Whitehorse Yukon to the Alaska border
POR	Plan of Restoration
Reasons	Reasons for Decision
SSNS	Site Specific Numerical Standards
Tank Farm	Whitehorse Upper Tank Farm located at Lots 429 and 430, Group 804, Plan 26170 LTO, Whitehorse, Yukon
YPL	Yukon Pipelines Limited
Yukon Pipeline	a 114 mm O.D. above-grade pipeline from Whitehorse, Yukon to the Alaska border including the upper tank farm in Whitehorse and a pump station at Carcross, Yukon

Recital and Submissions

IN THE MATTER OF the *National Energy Board Act* and the regulations made there under;

IN THE MATTER OF the National Energy Board, on its own motion, ordering a review of Abandonment Order MO-7-96 pursuant to section 21 of the *National Energy Board Act* on 29 February 2008;

AND IN THE MATTER OF National Energy Board Written Hearing Order MHW-R-1-2008, dated 2 October 2008.

REVIEWED in Calgary Alberta;

BEFORE:

Ms. S. Leggett	Presiding Member
Ms. G.A. Habib	Member
Mr. D. Hamilton	Member

Submitter	**Party**
Mr. D. Bursey, Bull Housser &Tupper	Yukon Pipelines Limited 17077 Yukon Inc.
Mr. J. Bowen, Yukon Environment	Government of Yukon
Mr. M. Gau, Whitehorse Planning and Development Services	City of Whitehorse
Mr. B. Taylor	33709 Yukon Inc.

Chapter 1

Introduction

1.1 Abandonment Order MO-7-96 Review

In 1942, the United States army constructed a 114 mm outside diameter above-grade pipeline known as Canol No. 2 from Whitehorse, Yukon, to Skagway, Alaska. This pipeline, including the upper tank farm in Whitehorse, Yukon (Tank Farm) and a pump station at Carcross, Yukon (Carcross Station), was part of the larger Canol pipeline project which was constructed to transport, refine and distribute liquid hydrocarbons from Norman Wells, Northwest Territories, for use in Yukon and Alaska during World War II. The pipeline was initially owned and operated by the US army.

White Pass and Yukon Corporation Ltd. (White Pass) began operating Canol No. 2 in 1947, reversing the flow to supply Whitehorse and Yukon with gasoline, diesel and fuel oil shipped by sea to Skagway from Vancouver, British Columbia. Yukon Pipelines Limited (YPL), which was a wholly-owned subsidiary of White Pass, purchased the pipeline and associated facilities in 1958. On 7 May 1962, the newly formed NEB granted YPL Certificate of Public Convenience and Necessity OC-12 to operate the Canadian portion of the former Canol No. 2. The Canadian portion of the pipeline was operated by YPL from 1962 until 1994 with only minor modifications and is referred to as the Yukon Pipeline.

On 7 October 1994, YPL and related companies discontinued operation of the pipeline between Skagway and Whitehorse. On 12 July 1995, YPL submitted an application to the NEB for an order pursuant to Section 74 of the *National Energy Board Act* for abandonment of the Yukon pipeline.

The Board found that the Yukon Pipeline was obsolete and was no longer used. By Order MO-7-96 (Abandonment Order), dated 6 September 1996, the Board granted the requested Abandonment Order on the condition that it come into force on the performance, to the satisfaction of the Board, of the following:

1. Unless the Board otherwise directs, YPL shall file a report on the results of the Phase I field investigation for the Carcross pump station which shall include a summary of the comments and concerns of interested persons and a summary of how YPL has addressed or will address those comments and concerns.

2. Unless the Board otherwise directs, YPL shall provide to the Board the results of its review of the inconsistencies in the spill data identified by Environment Canada, including an assessment of whether further action is required.

3. Unless the Board otherwise directs, YPL shall file a report before commencing the Phase II field investigation programs for the pipeline, upper tank farm and the Carcross pump station which shall describe the detailed methodologies for those programs and shall

include a summary of the comments and concerns of interested persons and a summary of how YPL has addressed or will address those comments and concerns.

4. Unless the Board otherwise directs, YPL shall dismantle its facilities to facilitate the phase II field investigation programs.

5. Unless the Board otherwise directs, YPL shall file a report following the Phase II field investigation programs which shall describe the results of those programs and the remedial measures selected for the pipeline, upper tank farm and the Carcross pump station and shall include a description of any remedial measures already undertaken, a summary of the comments and concerns of interested persons, a summary of how YPL has addressed or will address those comments and concerns, a priority ranking for the sites requiring remedial work, a schedule of work to be undertaken at each site and projected costs.

6. YPL shall carry out the remedial work in accordance with the report to be filed pursuant to Condition 5 above, subject to modifications, including additional investigative or remedial work, that may be directed by the Board from time to time before the Board accepts the final report to be filed pursuant to Condition 7 below.

7. Unless the Board otherwise directs, YPL shall file a report following the completion of the remedial work which shall demonstrate the success of the remedial work based on the criteria outlined by YPL in its application and in other evidence filed or otherwise given by YPL in this proceeding.

The effect of the Abandonment Order was that the Yukon Pipeline, consisting of the Pipeline Right of Way, the Carcross Station and the Tank Farm, would remain under NEB jurisdiction until the fulfillment of the conditions, at which time the NEB would no longer regulate it. During the hearing, YPL proposed to remediate the Tank Farm site to residential standards and to sell it for housing development with some commercial real estate. To date the proponent has conducted remediation, monitored and produced reports but has not satisfied the NEB that all of the conditions in the Abandonment Order have been performed.

Following a request by YPL that the Board decide that the Abandonment Order conditions had been met, the NEB ordered a review of the Abandonment Order on 29 February 2008 to examine it in light of current information regarding appropriate remediation.

The Board hosted a pre-hearing technical conference in Whitehorse, Yukon on 26 and 27 August 2008 for registered participants. Those who registered for the conference were also considered interested parties to the subsequent hearing. The purpose of the conference was to clarify technical information and issues to the extent possible before the hearing. Matters agreed to by the participants are identified in Appendix I.

The Board took into consideration matters agreed to at the pre-hearing technical conference and decided to review the Abandonment Order by way of a written hearing. On 2 October 2008 Hearing Order MHW-R-1-2008 was issued to establish the process for the Board's consideration of the Abandonment Order Review. The Hearing Order included the List of Issues which the Board and interested parties had agreed to. The List of Issues is included in Appendix II of these

Reasons. Counsel for YPL and 17077 Yukon Inc. indicated that their submission was supported by British Yukon Railway Company Limited and British Columbia Yukon Railway Company.

1.2 Reasons for Decision MHW-R-1-2008

These Reasons provide an overview of the matters considered by the Board in reaching a decision on the Abandonment Order Review. Details of the Board's assessment of issues identified by the Board or by parties to the proceeding are set out in these Reasons. In coming to its decision, the Board considered all of the evidence on the record in this matter. The regulatory documents on the record for the MHW-R-1-2008 hearing are available on the Board's website, www.neb-one.gc.ca under Regulatory Documents.

Chapter 2

Regulatory Authority for Abandonment

Upon an application for leave to abandon the operation of a pipeline and related facilities, the Board looks at a number of issues while taking into account the circumstances of each application. For example, the Board looks at the continued usefulness of the pipeline and any effects that abandonment would have on shippers or others relying on the operation of the pipeline. These issues were examined in the original application which resulted in the Abandonment Order under review in this proceeding and were not an issue in this review.

Petroleum pipelines transport products that are flammable and often explosive. In accordance with the Board's focus on safety, it requires pipeline companies to address safety hazards that could result from product that is left in the pipe or that could have escaped from it during operation.

In addition to matters related to safety, the Board also considers the risks to the environment from any contamination resulting from the former operation of the pipeline. This contamination can be present in soils and in groundwater. Remediation activities are required to bring any contamination within an acceptable standard.

When considering whether, and upon what terms, to grant leave to abandon a pipeline, the Board addresses adverse effects of abandonment of operations on those near the pipeline. It is important to hear from those who are directly affected by any residual contamination and proposed remediation. This is especially significant where the land is subject to an easement. The Board considers the potential impact on those who may be left with ownership of the land after any easement for the pipeline is removed.

The *National Energy Board Act* (NEB Act) does not allow the Board to continue to regulate a pipeline site after an abandonment order comes into force since, after abandonment, there is no pipeline defined under the NEB Act for the Board to regulate. For this reason, the Board usually issues abandonment orders subject to conditions that must be fulfilled to its satisfaction before the order comes into force. At that point, further development of the site is regulated by local authorities.

The Board determines the appropriate standard to which a pipeline site must be remediated before it is considered abandoned. Whether that site may be used for a particular development after abandonment will be a matter for local authorities. If the particular development approved by local authorities requires ongoing control measures to provide protection from residual contamination, those control measures would be under the purview of the local authorities. The Board cannot make the abandonment conditional upon future control measures for a specific development because authorization of future site development is outside of the NEB's mandate.

Chapter 3

Abandonment Order Review

3.1 Description of Facilities

The Yukon Pipeline, shown in Figure 3-1, consisted of 144 km of 114.3 mm diameter pipeline from the international boundary at the summit of the White Pass to Whitehorse, Yukon; the Carcross Station located near Carcross, Yukon; and the Tank Farm located in Whitehorse. The Tank Farm contained 24 above ground steel tanks each with a capacity of 1 600 m^3. In addition there were nine infrastructure sites at the Tank Farm for pumping and storing product. In this review the main issue was the remediation of contamination along the Pipeline Right of Way, at the Carcross Station and at the Tank Farm.

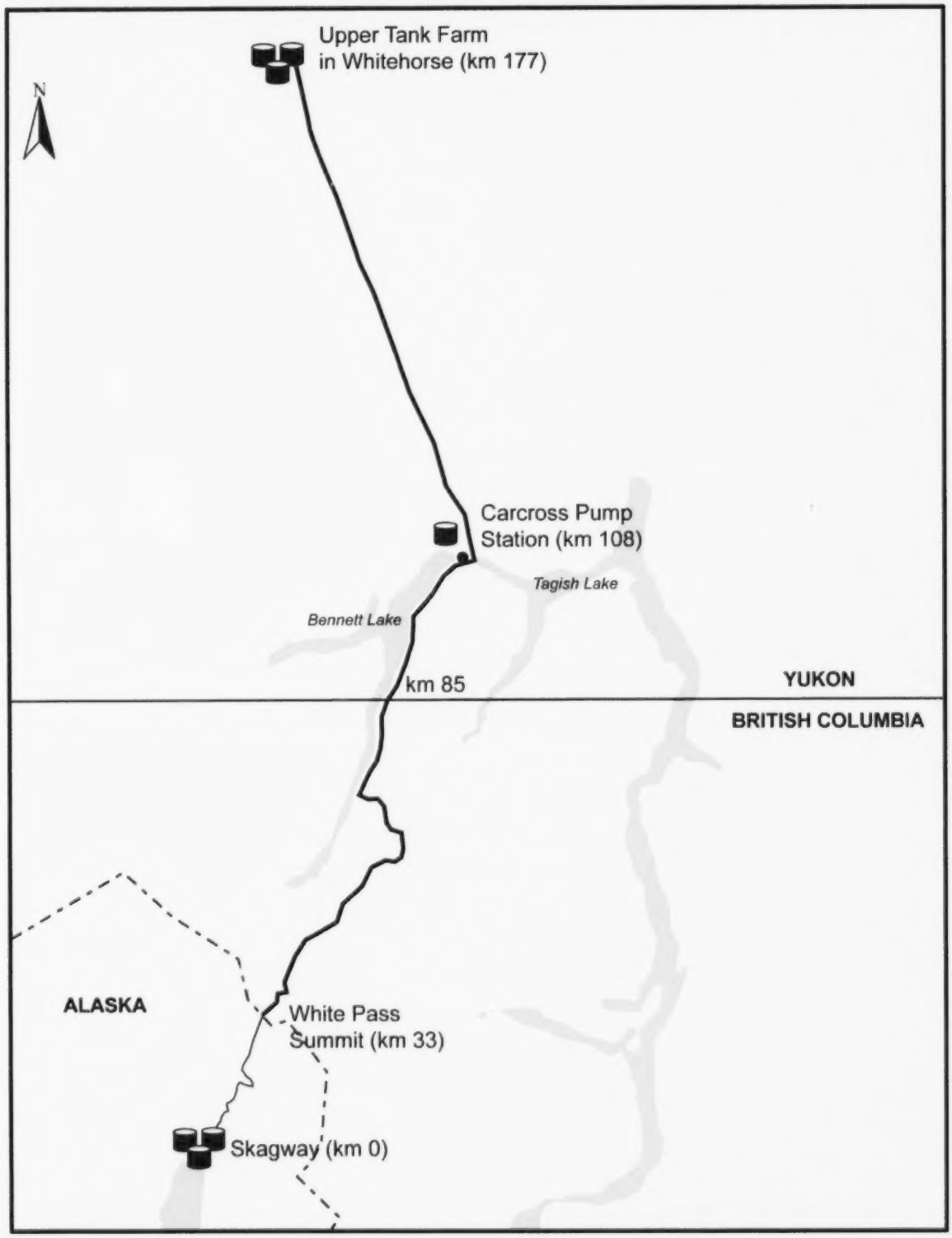
3.2 Pipeline Right of Way Abandonment

YPL has conducted and documented the following remediation actions on the Pipeline Right of Way as committed to at the 1996 hearing and proposed in the Plan of Restoration (POR) filed in accordance with Condition 5 of the Abandonment Order:

- Removal of accessible portions of the pipe over its 144 km pipeline route;
- Reclamation of pipe that remained in place. This was primarily in sensitive areas such as water bodies. The small diameter pipe was cleaned and sealed;
- Phase II environmental site assessment (ESA) of soils along the Pipe Right of Way at 100 m intervals;
- Excavation of approximately 750 m^3 of hydrocarbon impacted soil from Mile 90.1 of the pipeline and transport to Carcross Station site for land treatment;
- In-situ treatment, by soil amendment, of approximately 1 500 m^3 of hydrocarbon impacted soil and groundwater at MacRae site on the pipeline; and
- Surface water and groundwater analyses at Mile 90.1 and MacRae site.

All parties to the pre-hearing technical conference agreed that contamination along the Pipeline Right of Way has been adequately remediated such that it can be considered finally abandoned and can be severed from the Carcross Station and Tank Farm sites. This is noted in item 2 in the List of Matters Agreed to at the Technical Conference in Appendix I. YPL requested that the Pipeline Right of Way be severed from the other two sites and that the Board find that the conditions in the Abandonment Order have been performed such that the Pipeline Right of Way can be removed from NEB jurisdiction.

Figure 3-1
Yukon Pipeline Route



Views of the Board

The Board notes that the pipe and all other facilities have been removed from the Pipeline Right of Way except where the pipeline passed through sensitive environmental areas. The Board finds the evidence submitted to be technically sound and agrees with the parties to this review that there are no outstanding issues regarding contamination or other matters related to the Pipeline Right of Way as a result of the abandonment of the pipeline.

Accordingly, the Board is of the view that the conditions of the Abandonment Order have been met with regard to the Pipeline Right of Way. The Board is also of the view that the Pipeline Right of Way can be dealt with separately from the Carcross Station and Tank Farm sites for the purposes of abandonment.

3.3 Carcross Station Abandonment

The Carcross Station site was described as an industrial site at the abandonment hearing in 1996. Three monitoring wells on site and seven wells off site confirmed that a hydrocarbon plume extends off site towards the southwest in sandy soil at depths of 6 to 16 m with linear movement estimated at 3 m per year. The 1999 Plan of Restoration (POR) was based on industrial land use and required soil remediation and non-aqueous phase liquid free product recovery by means of skimmers beneath the site to reach an asymptotic (stable) level. YPL has conducted the following remediation actions:

- Removal of buildings, tanks, berms and piping;
- Phase I and II ESA conducted with boreholes and wells;
- Excavation and land farming of 18 000 m^3 of impacted surface soils at Carcross Station site and 750 m^3 impacted soil from the Pipeline Right of Way;
- On site and off site (last event in 1999) groundwater monitoring;
- Installation of a liquid hydrocarbon recovery system; and
- Twice weekly examination of the hydrocarbon recovery system until a 24 month period has passed where no free product is found to be present. The last free product recovery event was July 2007.

All parties have agreed that the Carcross Station is being remediated in accordance with the POR provisions that apply to the site. Product recovery and monitoring of the site is continuing in accordance with the POR.

The Government of Yukon (GY) would like monitoring conducted before the product recovery phase is complete and volatile petroleum hydrocarbons included in any monitoring required by the NEB. GY also alleges that an off site above ground tank was used by YPL at some point and that the Board should require YPL to provide a plan for remediating the soil and groundwater in the vicinity of this tank as well as for removing surface and subsurface structures.

YPL stated that the off site tank was not used by YPL at any time and that it was dismantled in 1962 when the pipeline and the Carcross Station site began operating under the NEB regulation.

The response from YPL regarding the hydrocarbon plume that extends off site was that when no free product is found in the recovery system, groundwater monitoring will occur for a further 24 month period with an indeterminate frequency. The previous 2001 commitment was for one monitoring event. Samples are now proposed to be analyzed for a full suite of petroleum hydrocarbon parameters.

In the written hearing, YPL responded to a question about future sample results exceeding standards by committing to a human health and risk assessment to determine if the risk is unacceptable. Should the risk assessment determine an unacceptable level of risk, they also committed to developing and implementing a risk mitigation plan.

YPL has no plans to continue sampling the site beyond the 24 month monitoring period unless there are unacceptable risks and monitoring is required. Lastly YPL disagrees with the GY proposal for volatile petroleum hydrocarbon sampling as it is primarily used to assess vapour pathways which the company argues are not an issue on an industrial site.

Views of the Board

The Board is not convinced from the evidence that the off site tank was used as part of the pipeline operation while under NEB jurisdiction. Therefore, the Board will not require YPL to address contamination from it as part of this abandonment.

The Board notes that product recovery at the Carcross site is expected to be completed in the near future and that YPL is endeavoring to meet the POR. However, it has been ten years since groundwater was monitored at the site. Accordingly, the Board is of the view that additional monitoring is required before abandonment of the Carcross Station site can be completed. In the Board's view this is required to ensure that there will be no unacceptable long term environmental or safety risks associated with this site.

Therefore, the Board will amend the abandonment order so that it comes into effect with regard to the Carcross Station site, regardless of the status of the other pipeline sites, once YPL satisfies the Board that:

1. YPL has provided a report demonstrating that product recovery has been completed at the Carcross Station site;

2. YPL has monitored all previously sampled groundwater wells on the site for volatile petroleum hydrocarbons and other petroleum hydrocarbons with a frequency of four sample events at approximately three month intervals; and

3. YPL has filed with the Board a report on groundwater monitoring in tabular format which demonstrates that all samples have met the applicable Yukon *Contaminated Site Regulations* and Canadian Council of Ministers of the Environment standards for aquatic life.

3.4 Whitehorse Tank Farm Abandonment

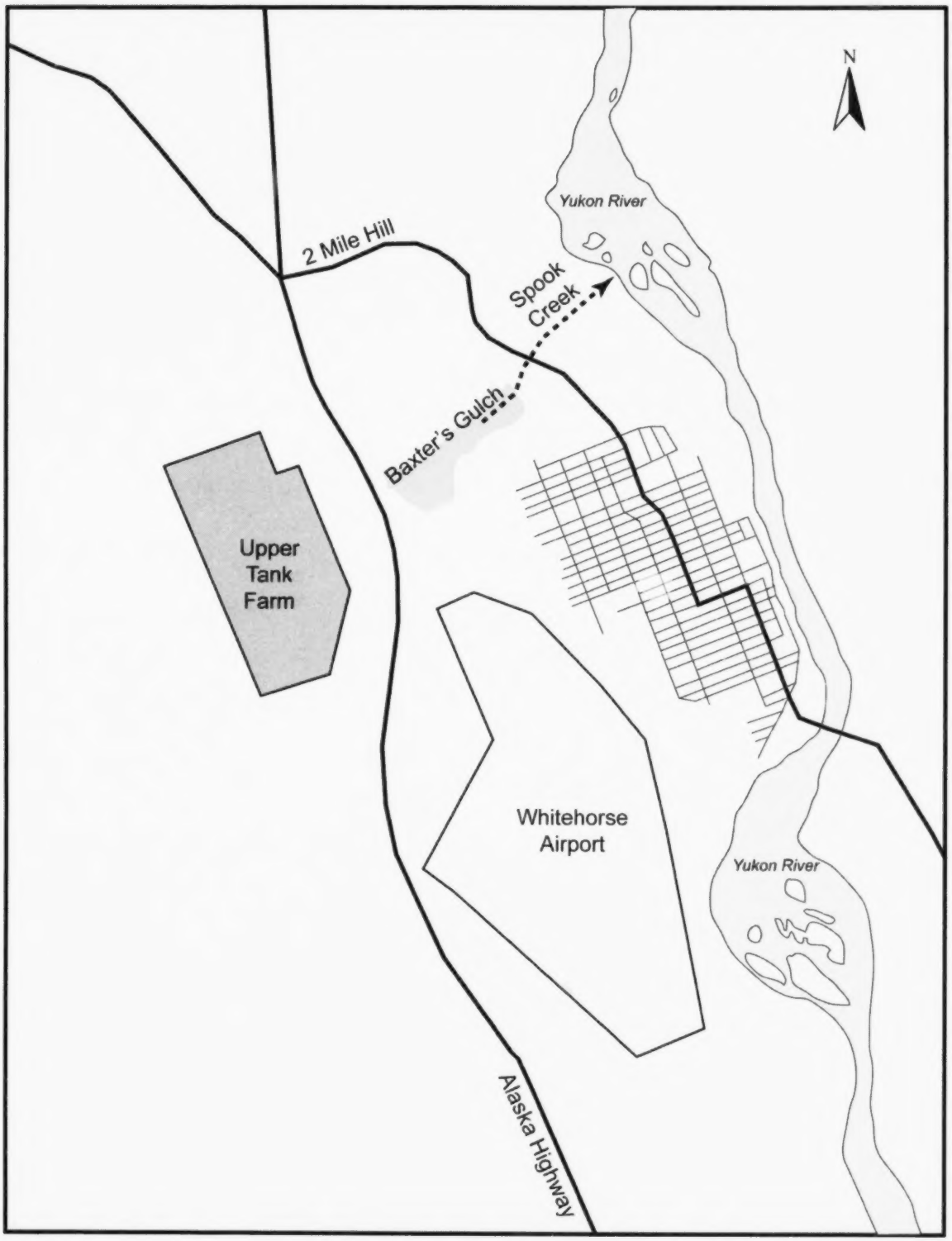
3.4.1 Tank Farm Remediation Status

The Tank Farm location within the City of Whitehorse is shown in Figure 3-2. It is located in a forested area underlain by sand and gravel with the groundwater table at 34 m below ground level. Baxter's Gulch has been identified as the exit point for groundwater from the site with an intermittent stream known as Spook Creek exiting the gulch towards the Yukon River.

During initial remediation, YPL removed all above ground and subsurface structures. It then delineated the soil and groundwater contamination and conducted the following remediation activities:

- Removal of 24 tanks, berms, numerous buildings, pumps and piping;
- Installation and monitoring of numerous soil boreholes and 21 groundwater wells;
- Vapour testing and transport modeling;
- Preparation of site-specific remediation standards based on vapour transport assumptions and proposed residential land use;
- Removal of 3 m of soil at 33 primary areas of soil contamination with some soil removed to 11 m;
- Installation of a liquid hydrocarbon recovery system with liquid hydrocarbon recovery ongoing;
- Groundwater monitoring in accordance with the POR followed by a POR amendment request to address groundwater contamination via a human health and ecological risk assessment; and
- Monitored natural attenuation assessment program with point of compliance sampling (soil and groundwater) at an off site location in Baxter's Gulch in support of a human health and ecological risk assessment.

Figure 3-2
Yukon Pipeline – Whitehorse Upper Tank Farm



3.4.2 Tank Farm Remediation Standard

Future Development

The Plan of Restoration (POR) submitted according to Condition 5 of the Abandonment Order contemplated remediation of the Tank Farm for residential land use. YPL requested that the Board amend the Abandonment Order so the standard of remediation is consistent with the historic industrial use of the land and that any future land use designations and associated remediation would be dealt with through other regulators. YPL also suggested that the site has been remediated beyond the industrial standard set out in the current Yukon *Contaminated Sites Regulation* (CSR).

The City of Whitehorse stated that the City's position in the Official Community Plan (OCP) is that this area will be developed as Urban Residential. Future development of this area for any other use would require Council approval of an OCP amendment.

GY indicated that the applied remediation standard should be based on residential land use because that is what the POR was based on and it is what the City of Whitehorse desires. Under the CSR, the GY arrives at the applicable land use by identifying the primary land use on the surface of the site. If the Minister of the Environment for the Yukon must rule on the land use then a number of factors may be considered. In this case GY considers the surface land use is parkland which requires remediation equivalent to residential land use.

The YPL response to the City of Whitehorse is that it is the pipeline operation that is being abandoned and not the site. As a result, YPL concluded that any future development proposal and associated development plans should be dealt with by the City and not by the NEB.

The YPL response to GY is similar to that for the City with reference to section 7.3.1 of the OCP which contemplates mixed use. In YPL's view, discussions on land use should only be amongst developers, the City and GY. The company states that a parkland land use designation is inappropriate because the land is privately owned and not for "outdoor recreation."

Site Specific Numerical Standards (SSNS) and Soil Vapour

All parties agreed that the Tank Farm had been remediated to a soil SSNS for residential land use. However, GY expressed the view that due to lack of sufficient delineation there may be areas where the concentrations of petroleum hydrocarbons are unacceptable from a soil vapour perspective. The assumption made was that if areas are identified where the SSNS is met and concurrently where soil vapour levels are acceptable for residences then the remaining areas would require soil vapour control measures.

GY also stated that if, at the end of the NEB process, there is insufficient remediation across the site then GY may have to require site specific risk assessments at each proposed residential lot.

YPL noted that the SSNS for soil for residential land use approach was based on establishing site specific numerical standards for soil, supported by soil vapour assessment and in accordance with the CSR.

YPL is of the view that the site should be abandoned as a pipeline operation with no future development contemplated and, as such, does not require soil vapour assessments. YPL submitted that the NEB should not require remediation for a future land use that is controlled by the GY and the City of Whitehorse, each of which have appropriate regulatory reviews and approvals. YPL added that the NEB does not have the mandate, expertise or powers to rule on soil vapour control measures in relation to building standards for residential developments.

Views of the Board

The Board notes that during Abandonment Hearing MH-7-96, YPL proposed that the land use for the Tank Farm site would be a mix of residential and commercial. The use of remediation standards for residential land use was subsequently approved. The Board also notes that soil SSNS for residential land use have been developed and appear to have been met for the Tank Farm. However, the Board remains of the view that potential effects of soil vapour have not been sufficiently assessed to conclude that all residential remediation standards have been achieved because the soil vapour assumptions were not shown to be valid for the entire property.

The Tank Farm site has been an industrial site for several decades since it was developed for the Yukon Pipeline. The evidence before the Board is that there is currently no development proposed for the site. Any new development proposal would need to be approved by the appropriate local development authorities and not the NEB. Those authorities will determine what is appropriate given the conditions of the site based upon the relevant criteria.

The owner has now proposed that the site be remediated to a standard suitable for industrial use. The Board does not consider that it is the NEB's role to oversee remediation to a standard for a land use that is fundamentally different from that proposed by the owner and from that which has been used since before the NEB began regulating the site. Accordingly, the Board considers that remediation to a standard for an industrial site is appropriate.

Notwithstanding YPL's view that industrial land use requires a less stringent soil remediation standard than that for residential, the passage of time and the need for certainty convinces the Board that it should require YPL to demonstrate that it has met the soil SSNS for industrial land use. The site must be shown to be remediated such that no obvious hazards exist to the public, safety and the environment from the industrial pipeline operation. As a result, before the Abandonment Order takes effect, the Board requires that YPL file:

- the site specific numerical standards (SSNS) for soil for industrial land use, which shall include the assumptions used in developing the SSNS;
- confirmation that the SSNS have been developed in accordance with the processes, procedures and protocols contemplated by the current Yukon *Contaminated Sites Regulation*; and
- a report in tabular format that demonstrates that each standard in the SSNS has been achieved.

3.4.3 Tank Farm Remediation Assurance

Contamination Delineation

GY has expressed concern about the potential effects of contamination in groundwater moving from the site towards the Whitehorse Airport and properties between the site and Spook Creek in Baxter's Gulch, including the Alaska Highway. There was no evidence presented by GY that contamination is entering the airport. However, monitoring well data shows the groundwater table at approximately 12 m below the highway in a plume that exits to Baxter's Gulch, immediately down gradient of the site and the highway.

GY expressed the view that there are insufficient delineation wells for validation of the risk assessment, for delineation of off site contaminant movement and for soil vapour predictions. In addition, GY would like sufficient wells for a full assessment so that monitoring does not have to be done again and so that future residential property owners are provided full knowledge of any risks or liabilities.

YPL submitted that the number and location of wells is sufficient to establish the presence of free product and direction of flow of the contaminants in this type of terrain and soil structure. YPL also responded that excavations in over 30 areas in accordance with the CSR between 1996 and 1999 showed that the lateral extent of soil contamination decreased with soil depth and that only one borehole showed free product with limited lateral extent. The company noted that the NEB should not require additional delineation since the GY has the authority to require individual site assessments.

Views of the Board

The Board notes that the GY recommendation was for the delineation process to restart with a new POR for the Tank Farm. The direction from GY on land use was that the NEB should administer the site until residences were constructed. This approach is not considered reasonable given that local and territorial approvals are required for residential development.

The Board notes that the remediation approach for the Tank Farm is complex in that a risk assessment approach is being used for groundwater and a site specific numerical standard approach is being used for soil. The Board considers GY's concerns regarding the lack of groundwater

delineation and soil vapour assessment in support of the formerly proposed site specific numerical standard for soil for residential land use to be valid. However, the owner of the site also makes a valid point that the Tank Farm site was used for pipeline operations and that it should be treated as an industrial site.

The Board is of the view that additional contaminant delineation for the purpose of providing more information for soil vapour assessment for possible future residential landowners' information is beyond the Board's mandate. However, an industrial land use consistent with the pipeline operation does not require the same degree of delineation. The Board is of the further view that there has been sufficient delineation of the Tank Farm for the purpose of determining the depth and extent of contamination for remediation to a standard for an industrial land use.

Groundwater Monitoring

The original POR stated that once two consecutive years of monitoring indicated contaminants were below CSR aquatic life standards for off site wells, and below site-specific groundwater standards for on site wells then groundwater restoration would be considered satisfactory. The CSR was amended in 2002 such that the SSNS for groundwater could not be met due to the presence of light extractable petroleum hydrocarbons. As a result, YPL modified the POR to take a risk assessment approach for groundwater remediation. As a result, when the POR was modified, monitoring was required only at the down gradient point of compliance in Baxter's Gulch and for free product on site.

GY advocates a long term monitoring program for both on and off site of the Tank Farm to determine if the levels of petroleum hydrocarbons increase at any time. YPL stated that no further monitoring is required for remediation to an industrial remediation standard. However, YPL responded positively to requiring a Plan of Restoration in accordance with the CSR if hydrocarbon levels in off site wells increased to unacceptable levels.

YPL advised that the collection of samples over the past 24 months was not completed as planned for a number of reasons. However YPL stated that 10 years of sampling demonstrates that hydrocarbons upgradient of Baxter's Gulch are either stable or trending downwards so neither additional monitoring nor long term monitoring is necessary.

Views of the Board

The Board finds that once YPL demonstrates that the SSNS criteria for industrial land use can be met, no long term monitoring of soils or groundwater will be required for the abandonment of the Tank Farm under the NEB Act. If a future development plan results in a land use other than industrial, then the Board believes that it is the responsibility of the relevant authorities to assess what additional monitoring requirements will be necessary for that land use. In addition, the Board does not have the authority to require ongoing monitoring after a pipeline is abandoned.

Groundwater Risk Assessment Approach

When the CSR was amended in 2002 to allow a risk assessment approach rather than a site specific approach, YPL realized that Site Specific Numerical Standards (SSNS) could not be achieved for light extractable petroleum hydrocarbons in groundwater. The POR was amended so that a risk based Health Hazard and Ecological Risk Assessment approach could be taken for dissolved phase hydrocarbons in groundwater.

GY is of the view that the risk assessment is for groundwater only and that there is a gap in knowledge regarding risks from soil vapour. Without further delineation, GY is of the view that the risk assessment is not comprehensive enough for the original residential land use. GY suggests that the SSNS for soil for residential land use is not valid because if a risk assessment approach is used for groundwater then a risk assessment approach also needs to be applied to soil contamination and vapour on site. GY also asserts that YPL said that the risk based approach applies to the whole site and to all forms of contamination (groundwater, soil and soil vapour).

YPL responded that a risk based Health Hazard and Ecological Risk Assessment approach has been taken for groundwater only and that it satisfies the remediation criteria for groundwater based on a point of compliance in Spook Creek. The most recent sampling results indicated the concentrations of dissolved phase hydrocarbons were below the allowable risk based criteria for receptors on and off site.

If the criteria could not be met, YPL would have developed a Monitored Natural Attenuation Plan as an alternative remedial measure to groundwater risk assessment. Previously YPL collected information to determine the biodegradation processes that are contributing to natural attenuation of dissolved phase hydrocarbons in groundwater. It was concluded that attenuation is occurring which supported the company's conclusion that the risk assessment approach is functioning.

Both GY and YPL feel that as part of a risk management approach, administrative controls such as municipal bylaws could be used to prevent groundwater use for potable purposes both on site and on adjacent affected properties. YPL suggested that this may be redundant because of the current municipal water main service to the site but agrees that any bylaws would have to be addressed by future developers.

Views of the Board

The Board is of the view that a change to the groundwater risk assessment is not required as the current groundwater risk assessment approach is based on standards to protect all exposure pathways of concern regardless of the land use.

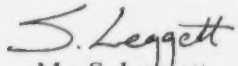
The Board recognizes that a municipal water supply is available on site. However, there is the potential for a groundwater well to be installed that could provide a pathway for potable water consumption. Given the current site characteristics, water consumption from this groundwater source would be unacceptable.

The Board does not have the authority to place administrative controls to protect against this risk as such a provision is under the local authority's jurisdiction. Based on the evidence, the Board would expect that the appropriate authority would proceed with the implementation of an administrative control to prohibit potable water use from groundwater at and down gradient of the Tank Farm site.

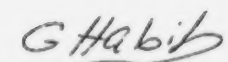
Chapter 4

Disposition

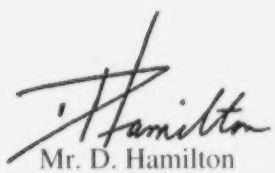
The foregoing constitutes our Reasons for Decision in respect of the review of Abandonment Order MO-7-96 for the Yukon Pipeline, considered by the Board in the MHW-R-1-2008 proceeding. The Board has decided, pursuant to section 21 of the NEB Act, to issue Amending Order AO-2-MO-7-96, reproduced as Appendix III, granting YPL leave to abandon the operation of its pipeline in accordance with the provisions of the Order.



Ms. S. Leggett
Presiding Member



Ms. G.A. Habib
Member



Mr. D. Hamilton
Member

Calgary, Alberta
March 2009

Appendix I

List of Matters Agreed to at the Technical Conference

The following matters were agreed to by the participants at the pre-hearing technical conference:

1. There should be clear direction from the NEB as a result of the Abandonment Review process.

2. There are no outstanding abandonment requirements with regard to the pipeline right of way.

3. Product recovery at the Carcross site is not complete. The Plan of Restoration will continue to be implemented and annual update reports will be provided.

4. It would be appropriate for the NEB to deal with the three sites separately in terms of the Abandonment Order (through severance of the Order or otherwise).

5. A remediation standard should apply at the Whitehorse Upper Tank Farm site and the NEB is to determine the standard.

6. At the Tank Farm site contaminated soil has been removed to 3 metres.

7. At the Tank Farm site, site specific remediation standards for soil at depths greater than 3 metres were implemented.

8. The following continue to be issues for all or some of the parties:

    i. Whether the risk assessment approach applies to both the Tank Farm and off site to Baxter's Gulch.

    ii. The significance of offsite contamination migration.

    iii. The significance of soil hydrocarbon vapours on the Tank Farm site.

    iv. Who "watches" the Tank Farm contamination after the NEB process.

Appendix II

List of Issues

1. Regarding the Carcross Site:

   b. Degree of remediation conducted and required including; recovery of hydrocarbons and monitoring of the hydrocarbon plume.

2. Regarding the Tank Farm Site:

   a. Appropriate land use remediation standards to be employed to allow the Abandonment Order to come into force.

   b. Adequacy of current soil and groundwater delineation.

   c. Significance of off site migration of contaminants as well as, need for delineation, remediation and source control.

   d. Appropriateness of a risk assessment approach including:

      i. Applicability of the approach to the entire site:

      ii. Demonstration that adequate bioremediation is occurring in support of monitored natural attenuation;

      iii. Ongoing groundwater monitoring plans; and

      iv. Monitoring and interpretation of groundwater and surface water at the point of compliance in Baxter's Gulch.

   e. Hydrocarbon vapour control for future structures and utilities.

Appendix III

Amending Order AO-2-MO-7-96

IN THE MATTER OF the *National Energy Board Act* (the Act) and the regulations made thereunder; and

IN THE MATTER OF an application, pursuant to section 74 of the Act filed with the Board by Yukon Pipelines Limited (YPL); under File No. 3400-Y001-2.

WHEREAS the Board issued Order MO-7-96 (Abandonment Order), granting YPL leave to abandon the operation of its pipeline, to come into force on the performance to the satisfaction of the Board of the conditions listed in the Abandonment Order;

AND WHEREAS the Board has not been satisfied of the performance of all of the conditions listed in the Abandonment Order

AND WHEREAS the Board, on its own motion, ordered a review of the Abandonment Order pursuant to section 21 of the Act;

AND WHEREAS the Board considered evidence and arguments of the YPL and interested parties in a written public hearing pursuant to Hearing Order MHW-R-1-2008, dated 2 October 2008;

AND WHEREAS the Board has determined that the following conditions have been performed to the satisfaction of the Board:

1. YPL has filed a report on the results of the Phase I field investigation for the Carcross Station which includes a summary of the comments and concerns of interested persons and a summary of how YPL has addressed or will address those comments and concerns.

2. YPL has provided to the Board the results of its review of the inconsistencies in the spill data identified by Environment Canada, including an assessment of whether further action is required.

3. YPL has filed a report before commencing the Phase II field investigation programs for the pipeline, the Tank Farm and the Carcross Station which has described the detailed methodologies for those programs and has included a summary of the comments and concerns of interested persons and a summary of how YPL has addressed or will address those comments and concerns.

4. YPL has dismantled its facilities to facilitate the Phase II field investigation programs.

5. YPL has filed Environmental Site Assessments and Plans of Restoration following completion of the Phase II field investigation programs which have described the results of those programs and the remedial measures selected for the pipeline, the Tank Farm

and the Carcross Station and has included a description of any remedial measures already undertaken, a summary of the comments and concerns of interested persons, a summary of how YPL has addressed or will address those comments and concerns, a priority ranking for the sites requiring remedial work, a schedule for the work to be undertaken at each site and projected costs.

6. YPL has carried out remedial work in an effort to meet the requirements of the Plans of Restoration filed pursuant to Condition 5 above, subject to any modifications, including additional investigative or remedial work, that have been directed by the Board from time to time.

AND WHEREAS the Board has examined the evidence and arguments presented by YPL and interested parties in this proceeding and has found it to be in the public interest to grant the following relief;

IT IS ORDERED THAT:

1. The Abandonment Order be replaced by this Order

2. YPL is granted leave to abandon the operation of its pipeline in accordance with the policies, practices, recommendations and procedures included or referred to in its application, including the environmental reports and other materials filed as part of its application and the review proceeding, its responses to information requests and the undertakings and statements made by it in the original and the review proceeding. In accordance with an undertaking made by YPL, in planning and conducting the remaining investigation, decommissioning and remedial work, YPL shall provide information to and consider the comments of any persons who indicate to YPL that they wish to be consulted.

3. This Order takes effect immediately with regard to the abandonment of the operation of the Pipeline Right of Way.

4. Pursuant to subsection 19(1) of the Act, this Order shall come into force with regard to the Carcross Station site on the performance to the satisfaction of the Board of the following conditions:

    a. Unless the Board otherwise directs, YPL shall provide a report demonstrating that product recovery has been completed at the Carcross Station site;

    b. Unless the Board otherwise directs, once product recovery at the Carcross Station site has been completed, YPL shall monitor all previously sampled groundwater wells on the site for volatile petroleum hydrocarbons and other petroleum hydrocarbons with a frequency of four sample events at approximately three month intervals; and

    c. Unless the Board otherwise directs, YPL shall file with the Board a report on groundwater monitoring in tabular format which shall demonstrate that all samples, collected pursuant to condition 4 b., have met the applicable Yukon *Contaminated*

Site Regulations and Canadian Council of Ministers of the Environment standards for aquatic life.

5. Pursuant to subsection 19(1) of the Act, this Order shall come into force with regard to the Tank Farm site on the performance to the satisfaction of the Board of the following conditions:

   a. Unless the Board otherwise directs, YPL shall file a report on the Tank Farm showing:

      i. the developed site specific numerical standards (SSNS) for soil for industrial land use, which shall include the assumptions used in developing the SSNS, and

      ii. confirmation that the SSNS have been developed in accordance with the processes, procedures and protocols required by the current Yukon *Contaminated Sites Regulation.*

   b. Unless the Board otherwise directs, YPL shall file a report in tabular format that demonstrates that each standard in the SSNS has been achieved.

NATIONAL ENERGY BOARD

Claudine Dutil-Berry
Secretary of the Board